

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A data recovery device, comprising:
a demodulator for demodulating a transmission signal;
a level controller for limiting a voltage range of the demodulated signal to a predetermined voltage range, wherein the level controller excludes voltages levels outside a voltage range that includes sampling points of the synchronous signals, the sampling points being used in recovering the original data;
a plurality of symbol recovery units, each detecting a signal from the level controller and generating a corresponding synchronous signal and a lock signal, wherein the lock signals are selectively enabled to select one of the synchronous signals, based on pattern variations of the transmission signal detected by the symbol recovery units; and
a data decision unit for performing a data recovery operation using the selected synchronous signal to recover original data of the transmission signal.

2 - 3. (Canceled)

4. (Original) The data recovery device of claim 1, wherein the data decision unit performs a data recovery operation by sampling the demodulated signal using a

predetermined sampling frequency within each cycle of a selected one of the synchronous signals.

5. (Currently Amended) The data recovery device of claim 4, wherein the predetermined sampling frequency is ~~about~~ 40 KHz.

6. (Original) The data recovery device of claim 1, wherein the transmission signal is generated by encoding the original data in Manchester format.

7. (Original) The data recovery device of claim 6, wherein the original data comprises an NRZ (Non-Return-to-Zero) data stream.

8. (Currently Amended) A data recovery device for a mobile communications system, comprising:

a demodulator for demodulating a transmission signal;

a level controller for controlling voltage levels of the demodulated signal, wherein the level controller excludes voltages levels outside a voltage range that includes sampling points of the synchronous signals, the sampling points being used in recovering the original data;

a plurality of symbol recovery units, each detecting a signal from the level controller and generating a synchronous signal and a lock signal;

a data recovery unit for performing a data recovery operation using a selected one of the synchronous signals; and

a lock switch for selecting one of the synchronous signal, in response to the activation of a corresponding lock signal.

9. (Original) The data recovery device of claim 8, wherein the data recovery unit performs a data recovery operation by sampling the demodulated signal at a predetermined frequency within each cycle of the selected synchronous signal.

10. (Original) The data recovery device of claim 8, wherein the symbol recovery units activate the corresponding lock signal based on a detected pattern variation of the demodulated signal.

11. (Original) A method for recovering data in a communications system, comprising the steps of:

demodulating a transmission signal;

tracking signal patterns of the demodulated signal to generate a plurality of synchronous signals;

selecting one of the synchronous signals based on a detected phase variation of the demodulated signal; and

recovering data from the demodulated signal using the selected synchronous signal.

12. (Original) The method of claim 11, further comprising the step of limiting a voltage range of the demodulated signal to a predetermined range.

13. (Currently Amended) The method of claim ~~40~~ 11, wherein the step of selecting one of the synchronous signal, comprises activating a lock signal associated with a selected synchronous signal.

14. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for recovering data in a communications system, the method steps comprising:

demodulating a transmission signal; tracking signal patterns of the demodulated signal to generate a plurality of corresponding synchronous signals and lock signals;

selectively activating the lock signal based on a detected phase variation of the demodulated signal to ~~selected~~ select one of the synchronous signals; and

recovering data from the demodulated signal using the selected synchronous signal.

15. (Original) The program storage device of claim 14, further comprising the step of limiting a voltage range of the demodulated signal to a predetermined range.

16. (Original) The program storage device of claim 14, wherein the step of selectively activating the lock signal, comprises activating the lock signal associated with a selected synchronous signal.

17. (Original) The program storage device of claim 14, wherein the step of recovering data, comprises sampling the demodulated signal based on a predetermined frequency within each cycle of a selected one of the synchronous signals.